SBR No. 60/21-22
DATED 15/03/2022

Original / Duplicate / Triplicate

CONTRACT CERTIFICATE

(For Other Works)

EE/ELE/Y/BR.No. 60/21-22

Date.....20. Dt. 15-03-22

No. [redacted] 2nd RA BILL

Division: RI Yelahanka Division,

Bill Received No.....Dated.....Cash Book Voucher No.....dated.....

Scheduled Docket No.....

Name of Work: Providing Street Lights in Yelahanka Division

Job Code No:004-20-000038

Name of Contractor and Full Address : Sri. MADHUSUDHAN A N (SURAKSHA ELECTRICALS),

Work Order No: BBMP/EE/YNK.D/EMTP-3/W.O/198/2020-21 **Dated : 24/12/2020**

Certified that the measurements were taken by me on 11/3/22 and recorded in pages 257301 TO 311 of measurement Book No. 2574/21-22 ..... and that the work is satisfactorily executed.

Contractor

Officer-in-charge of work

Certified that the measurements were taken by me on 11/3/22 and found correct. The work is satisfactorily executed.

Certified that the quantities of materials shown in column 3 of Account II have been actually brought to site of the work and the contractor has not previously received any advance on this security. These materials are of an imperishable nature and are all required for immediate use on the work in connection with items for finished work have been agreed upon. A normal agreement signed and executed by the contractor is recorded in the office.

Sub-Division Officer

Assistant Executive Engineer (Ele)
BBMP, Bangalore

If Memorandum of Payment

1)	Total value of work done or supplies made as per account within	Bill= 28328328=00
2)	Deduct amount to be held in reserve being.....percent Rs.....	IT 1%. 283283=00
3)	Deduct amount to be held in Balance	LWC 1%. 283283=00
4)	Deduct Payment :	CBF 0.1% 28328=00
	a) Amount of previous payment as in the Office Cash Book Voucher No.....Dated.....S.D No.....	Cost 1% 269061=00
	Amount adjusted towards cash advance recovery of	Cess 1% 269061=00
	b) Payments cost store or other materials supplied.	Royalty= 7152=00
	Now made recovery of amount creditable to this/other work	deductions= 11.40.168=00
	Amount paid on this bill Cheque/Cash	Amount= 2,71,88,160=00
5)	Balance being unpaid value of work done held in reserve	
6)	Deduct cash advance made on the office Cash Book Voucher No..... date .....less adjustments	
7)	Net amount due to or from contractor	
	Unadjusted items	
8)	Advance to contractor for materials brought to site (as detailed) within value of Governme materials supplied	

Contractor's Signature

Received Rs.....(in words)

By Cash and by adjustment of Payment as per memorandum.

Witnesses :

1.

2.

(For use in the Office)

Dated.....Signature of Contractor

ಎಂ.ಬಿ.ನಂ. P 37 to 40

ರೂ. 28328328=00 ಸ್ವೀಕರಿಸಿದೆ

ರೂ. 2,71,88,160=00 ಮುಂಗಡಕ್ಕಾಗಿ

ರೂ. 11,40,168=00 ಕಡಿತಕ್ಕಾಗಿ ಮುಂಬಡ

Paid by me by cheque No.....Dated.....

Cash Rs.....Dated.....

Initials of Officer Making Payment

ಲೆಕ್ಕ ಪರಿಶೋಧಕರು

ಕಾರ್ಯನಿರ್ವಾಹಕ ಅಭಿಯಂತರರು

Executive Engineer

BRUHAT BANGALORE MAHANAGARA PALIKE

Name of Work: As Per Modifieded Estimate Providing Street Lights in Yelahanka Division

ABSTRACT

Sl No	Description of Work	Unit	As per Shedule -B			Previous Measurement		Present Measurement			Up to date	
			Qty	Rate	Amount	Qty	Amount	Qty	Rate	Amount	Qty	Amount
1	Earth work excavation by manual means in ordinary soil involving an average horizontal throw upto 2 meters and an average lift upto 0.5m, excavated surface levelled and sides neately dressed, the disposed earth to be levelled neatly after breaking of clods complete as per specification.	Cum	74.89	220.00	16476.32			74.89	220.00	16476.3225	74.89	16476.32
2	KSRRB M2100-10: Providing and laying in position plain cement concrete of mix 1:3:6 with OPC cement @ 220kgs, with 40mm and down size graded granite metal coarse aggregates @ 0.89 cum and fine aggregates @ 0.46 cum, in foundation mechanically mixed, placed in foundation and compacted by vibration including curing for 14 days including cost of all materials, labour, HOM of machinery, curing, formworks, scaffolding and centering complete as per specifications	Cum	10.6627	5693.00	60703.04			10.6627	5693.00	60703.03575 60687.38	10.6627	60703.04 60687.38
3	Construction of Median and island with Soil taken from Borrow Areas. KSRRB M400-19. Construction of Median and island with Soil taken from Borrow Areas. Construction of Median and island above road level with approved material deposited from borrowpits, spread, sloped and compacted as per Clause 400.7 complete as per specifications.	Cum	297.00	232.62	69088.14			297.00	232.62	69088.14	297.00	69088.14

Sl No	Description of Work	Unit	As per Shedule -8			Previous Measurement		Present Measurement			Up to date	
4	Providing and fixing pre cast solid cement concrete kerb stones made out of CC 1:2:4 with top and bottom width 114 and 165 mm respectively, 400mm high and 450mm in length finished with CM 1:3 plastering and finishing cutting including formwork, curing, including cost of materials, labour charges of machinery, loading and unloading, lead and lift, transportation ete	Nos	3778.00	454.10	1715589.80			3778.00	454.10	1715589.8	3778.00	171558980
5	KSRRB 800-1. Painting two coats after filling the surface with synthetic enamel paint in approved shades on new plastered concrete surfaces, with materials, labour complete as per specifications. MORTH Chapter 8	Sqm	595.00	89.00	52955.00			595.00	89.00	52955	595.00	52955.00
6	Providing and laying in position plain/reainforced cement concrete M20 for sub structure/ Superstructure works, with cement @ 320 kgs, 20 mm & down size graded granite metal coarse aggregate @ 0.69 cum and fine aggregates @ 0.46 cum machine mixed with superplasticisers @ 3ltrs confirming to IS 9103-2008, concrete laid in layers, well compacted and providing weep holes wherever necessary with necessary scaffoldingf, formwork etc., including cost of labour, HOM curing etc., complete	Cum	35.10	5541.00	194489.10			35.10	5541.00	194489.1	35.10	19448910
7	KSRRB M2200-6. Providing TMT steel reinforcement Fe500 for R.C.C work including straightening, cutting, bending, hooking, palcing in position, lapping and / or welding wherever required, tying with binding wire and anchoring to the adjoining memebrs wherever necessary complete as per design (laps, hooks and wastage shall not be measured and paid) cost of materials, labour, HOM of machinery complete as per specifications.	Tn	1.28442	75943.00	97542.71			1.28442	75943.00	97542.70806 ~~97207.04~~	1.28442	97542.71 ~~97207.04~~

Sl No	Description of Work	Unit	As per Shedule -II			Previous Measurement		Present Measurement			Up to date	
8	Fabricating, Supplying and errection of decorative bent type Conical Street light pole with hot dip Galvanized with BSEN 10025 grade S 355 JO Steel plate for shaft, IS 2062 for base plate with door opening arrangements, including suitable boards, Bakelite sheet for MCBs as per IS Specifications.suitable to withstand the wind speed. The total height of the pole 9 mtrs. The pole should have 2 nos of pole esthetically bent either side. The dimensions of the pole bottom 178 mm,at 9 mtrs height 70 mm 3mm thick and one number of 3 mtr height perforated pole having colour changing LED Fixture, inside as suitable to the picture. The base plate size of 350mm x 350mm x 18 mm and the pole shall be galvanized with not less than 65 micron etc and finally finished with paint as required with two different colour. (With out foundation). As per the enclosed pictures and as per IS standards. As per attached Drawing	Nos	60.00	97125.00	5827500.00			60.00	97125.00	5827500	60.00	582750Q00
9	Fabricating, supplying and erection of ...Mtrs long hot dip Galvanized Octagonal pole with BSEN 10025 grade S 355 JO steel plate for shaft, IS 2062 for base plate with door opening arrangements, including suitable boards, Bakelite sheet and MCBs as per IS specifications suitable to withstand the wind speed of 47 m/sec for .....Mtrs pole in single section and single joint welded as per IS 9595/IS 10178AWS having dimensions bottom .....mm, top....mm with 3mm thick, suitable base plate and 4Nos of long J bolts along with template and the pole shall be hot dip galvanized in single dipping with not less than 65micron as per ASTM-A123 and 153 etc., (excluding foundation) as per drawing appended.7 meters - Top 70mm and bottom 130mm dia	Nos	41.00	11476.50	470536.50			41.00	11476.50	470536.5	41.00	47053650

Sl No	Description of Work	Unit	As per Shedule -B			Previous Measurement		Present Measurement			Up to date	
10	Fabricating, supplying and erection of ...Mtrs long hot dip Galvanized Conical pole with BSEN 10025 grade S355JO steel plate for shaft, IS 2062 for base plate with door opening arrangements, including suitable boards, Bakelite sheet and MCBs as per IS specifications suitable to withstand the wind speed of 47 m/sec for .....Mtrs pole in single section and single joint welded as per IS 9595/IS 10178AWS having dimensions bottom .....mm, top....mm with 3mm thick, suitable base plate and 4Nos of long J bolts along with template and the pole shall be hot dip galvanized in single dipping with not less than 65micron as per ASTM-A123 and 153 etc.,(excluding foundation) as per drawing appended.4 meters - Top 75mm and bottom 115 mm dia	Nos	190.00	6686.40	1270416.00			190.00	6686.40	1270416	190.00	127041600
11	Fabricating, supplying and erection of ...Mtrs long hot dip Galvanized Octagonal pole with BSEN 10025 grade S 355 JO steel plate for shaft, IS 2062 for base plate with door opening arrangements, including suitable boards, Bakelite sheet and MCBs as per IS specifications suitable to withstand the wind speed of 47 m/sec for .....Mtrs pole in single section and single joint welded as per IS 9595/IS 10178AWS having dimensions bottom .....mm, top....mm with 3mm thick, suitable base plate and 4Nos of long J bolts along with template and the pole shall be hot dip galvanized in single dipping with not less than 65micron as per ASTM-A123 and 153 etc., (excluding foundation) as per drawing appended.3 meters - Top 70mm and bottom 130mm dia	Nos	40.00	5628.00	225120.00			40.00	5628.00	225120	40.00	22512000
12	Supplying, and fixing of Hot dip Galvanized M.S.Bracket suitable for out door luminaries and mounted on Octagonal pole using necessary bolts, nuts etc., complete.Single Arm Bracket with 1500mm Standard 40/50MM dia	Nos	41.00	2217.60	90921.60			41.00	2217.60	90921.6	41.00	90921.60

Sl No	Description of Work	Unit	As per Shedule -B			Previous Measurement		Present Measurement			Up to date	
13	Supplying, and fixing of Hot dip Galvanized M.S.Bracket suitable for out door luminaries and mounted on Octagonal pole using necessary bolts, nuts etc., complete.Single Arm Bracket with 1000mm Standard 40/50MM dia	Nos	190.00	1773.45	336955.50			190.00	1773.45	336955.5	190.00	33695550
14	Supply of LED Streetlight luminaire with pressure die cast aluminium housing body for optimal thermal dissipation.Lamp compartment comprising of anti glare clear diffuser with Injection moulded polycarbonate material, delivering superior light output. Rated life Burning Hrs 50000 hr @ Lumen Maintenance of 70%, maximum light intensity should be between 60 degrees to 70 degrees. CCT > 5500K, IP 66 optical and electrical compartment & impact resistance of complete luminaire > IK08. Power Factor >0.9 with mains, Surge Protection- Min 5KV along with Over voltage/Overload, short circuit/ miss-wiring protection. Compatible for pole mouting with outer dia of 40mm to 50mm. Universal Voltage driver to operate wide voltage range from 100V to 270V 50/60Hz application. Compliance to IS 10322/IEC 60598, LM 79 & LM 80 Adherence with RoHS. UL approved MCPCB. Top access street light with single screw to ensure ease of maintenance at the sight site location with minimized minimal tools. LED Light fixture with .....W System Power consumption. LED efficiency>130lm/w, nominal CRI >75.Luminaire manufacturer should have in-house facility accredited by NABL/CPRI & any Government certified agency & Design & Development facility certified by ISO 9001:2008 . Housing with supplier word mark /name shall be Engraved / Embossing on the die cast housing/ Body LED Floodlight 150W part. Warranty of 2 Years against any manufacturing defect working under standard electrical conditions as mentioned	Nos	120.00	10762.50	1291500.00			120.00	10762.50	1291500	120.00	129150000

Sl No	Description of Work	Unit	As per Shedule -B			Previous Measurement		Present Measurement			Up to date	
15	Supply of LED Streetlight luminaire with pressure die cast aluminium housing body for optimal thermal dissipation. Lamp compartment comprising of anti glare clear diffuser with Injection moulded polycarbonate material, delivering superior light output. Rated life Burning Hrs 50000 hr @ Lumen Maintenance of 70%, maximum light intensity should be between 60 degrees to 70 degrees. CCT > 5500K, IP 66 optical and electrical compartment & impact resistance of complete luminaire > IK08. Power Factor >0.9 with mains, Surge Protection- Min 5KV along with Over voltage/ Overload, short circuit/ miss-wiring protection. Compatible for pole mouting with outer dia of 40mm to 50mm. Universal Voltage driver to operate wide voltage range from 100V to 270V 50/60Hz application. Compliance to IS 10322/IEC 60598, LM 79 & LM 80 Adherence with RoHS. UL approved MCPCB. Top access street light with single screw to ensure ease of maintenance at the sight site location with minimized minimal tools. LED Light fixture with W System Power consumption. LED Efficiency>130lm/w, nominal CRI >75. Luminaire manufacturer should have in-house facility accredited by NABL/CPRI & any Government certified agency & Design & Development facility certified by ISO 9001:2008 . Housing with supplier word mark /name shall be Engraved / Embossing on the die cast housing/ Body part. Warranty of 2 Years against any manufacturing defect working under standard electrical conditions as mentioned above should be given by LED manufacturer & Cree/Nichia/	Nos	41.00	9660.00	396060.00			41.00	9660.00	396060	41.00	39606000

Sl No	Description of Work	Unit	As per Shedule -B			Previous Measurement		Present Measurement			Up to date	
16	Supply of LED Streetlight luminaire with pressure die cast aluminium housing body for optimal thermal dissipation. Lamp compartment comprising of anti glare clear diffuser with Injection moulded polycarbonate material, delivering superior light output. Rated life Burning Hrs 50000 hr @ Lumen Maintenance of 70%, maximum light intensity should be between 60 degrees to 70 degrees. CCT > 5500K, IP 66 optical and electrical compartment & impact resistance of complete luminaire > IK08. Power Factor >0.9 with mains, Surge Protection- Min 5KV along with Over voltage/ Overload, short circuit/ miss-wiring protection. Compatible for pole mouting with outer dia of 40mm to 50mm. Universal Voltage driver to operate wide voltage range from 100V to 270V 50/60Hz application. Compliance to IS 10322/IEC 60598, LM 79 & LM 80 Adherence with RoHS. UL approved MCPCB. Top access street light with single screw to ensure ease of maintenance at the sight site location with minimized minimal tools. LED Light fixture with W System Power consumption. LED Efficiency>130lm/w, nominal CRI >75. Luminaire manufacturer should have in-house facility accredited by NABL/CPRI & any Government certified agency & Design & Development facility certified by ISO 9001:2008. Housing with supplier	Nos	190.00	3528.00	670320.00			190.00	3528.00	670320	190.00	67032000

Sl No	Description of Work	Unit	As per Shedule -B			Previous Measurement		Present Measurement			Up to date	
17	Supply of LED pole mounting type post top lantern with pressure die cast aluminium housing body for optimal thermal dissipation. Lamp compartment comprising of anti glare clear diffuser with Injection moulded polycarbonate/ clear glass material, delivering superior light output.Rated life Burning Hrs 50000 hr @ Lumen Maintenance of 70%, CCT > 5500K, IP 66 optical and electrical compartment & impact resistance of complete luminaire > IK08. Power Factor >0.9 with mains, Surge Protection- Min 5KV along with Over voltage/Overload, short circuit/ miss-wiring protection. Compatible for pole mounting with outer dia of 40mm to 50mm. Universal Voltage driver to operate wide voltage range from 100V to 270V 50/60Hz application. Compliance to IS 10322/IEC 60598, LM 79 & LM 80 Adherence with RoHS. UL approved MCPCB . LED Efficiency>130lm/w, nominal CRI >75. Luminaire manufacturer should have in- house facility accredited by NABL/CPRI & any Government certified agency & Design & Development facility certified by ISO 9001:2008 . Housing with supplier word mark /name shall be Engraved / Embossing on the die cast housing/ Body part. Warranty of 2 Years against any manufacturing defect working under standard electrical conditions as mentioned above should be	Nos	40.00	6720.00	268800.00			40.00	6720.00	268800	40.00	26880000
18	Supplying of 1.1 KV LT UG cable XLPE or Heat resistant PVC insulated, PVC extruded Inner sheath armoured UG LT cable as per IS-1554 (Part-1) or IS-7098 Part-1, Armouring strip thickness in average +5% and resistivity 14 Ohms/Kms (Max) as per IS-3975 3.5 core 25 sqmm	Mtrs	2732.00	189.00	516348.00			2732.00	189.00	516348	2732.00	5163480
19	Supplying of 1.1 KV LT UG cable XLPE or Heat resistant PVC insulated, PVC extruded Inner sheath armoured UG LT cable as per IS-1554 (Part-1) or IS-7098 Part-1, Armouring strip thickness in average +5% and resistivity 14 Ohms/Kms (Max) as per IS-3975 3.5 core 35 sqmm	Mtrs	714.00	236.25	168682.50			714.00	236.25	168682.5	714.00	16868250

Sl No	Description of Work	Unit	As per Shedule -B			Previous Measurement		Present Measurement			Up to date	
20	Labour charges for laying of 1.1 KV class UG cable in existing trench GI pipe / stoneware pipe / on wall / on pole as required In existing trench/duct. 25 sqmm to 75 sqmm	Mtrs	3446.00	16.28	56100.88			3446.00	16.28	56100.88	3446.00	56100.88
21	Digging of trench of 0.6m deep x 0.50 mtr wide refilling the trench to the required ground level and consolidating etc.,complete.(As per Civil SR KSRB I-2, P-7)In soil (ordinary)	Mtrs	12029.00	79.80	959914.20			12029.00	79.80	959914.2	12029.00	95991420
22	Digging of trench of 0.6m deep x 0.50 mtr wide refilling the trench to the required ground level and consolidating etc.,complete.(As per Civil SR KSRB I-2, P-7)Asphalt cutting	Mtrs	639.00	118.65	75817.35			639.00	118.65	75817.35	639.00	75817.35
23	Wiring for lighting/power circuit using one of FRLS PVC insulated 1100V grade, multistrand copper wire with low conductor resistance single core in open or concealed system of wiring with specified IS-694:confirming to latest amendments 1.5 sqmm	Mtrs	5603.00	21.53	120632.59			5603.00	21.53	120632.59	5603.00	12063259
24	Wiring for lighting/power circuit using one of FRLS PVC insulated 1100V grade, multistrand copper wire with low conductor resistance single core in open or concealed system of wiring with specified IS-694:confirming to latest amendments 10 sqmm	Mtr.	50.00	120.75	6037.50			50.00	120.75	6037.5	50.00	6037.50
25	Supplying and fixing of class A (medium duty) GI pipe of wall thickness not less than .25mm on pole/wall/drain crossing with necessary clamping arrangements for UG cable of 1.1 KV.40mm	Mtrs	120.00	351.75	42210.00			120.00	351.75	42210	120.00	42210.00
26	Supplying and fixing L.T. cast Iron pot heads suitable for 1.1 KV class UG cable filled with necessary bitumen/insulating compound complete with terminals, clamps, bolts, nuts and washers etc.35Sqmm	Nos	20.00	367.50	7350.00			20.00	367.50	7350	20.00	7350.00
27	Supplying tinned copper lugs and crimping and wiring to terminal point for wire of the following sizes.25 sqmm Long Barrel	Nos	600.00	21.00	12600.00			600.00	21.00	12600	600.00	12600.00

Sl No	Description of Work	Unit	As per Shedule -B			Previous Measurement		Present Measurement			Up to date	
28	Supplying fixing and wiring earth electrode for grounding of lifts, transformers, DG sets etc. using 40mm dia 2.9mm thick 2.5 mtr long GI pipe with GI funnel with mesh and suitable size reducer fixed on the top of the earth electrode.The funnel should be enclosed in a CC chamber of 400x400x400mm with a cast iron cover. The earth electrode shall have staggered holes of 12mm dia and the electrode should be covered 150mm all-round with alternate layers of salt and charcoal from the bottom of the CC chamber. The connection from the electrode is to be established through GI strip using GI bolts and nuts.	Nos	3.00	4357.50	13072.50			3.00	4357.50	13072.5	3.00	13072.50
29	Supplying and running of GI/Copper strips for grounding connections, using necessary fixing materials as required.600x600x3mm Copper plate	Nos	3.00	7245.00	21735.00			3.00	7245.00	21735	3.00	21735.00
30	Supplying and fixing angle iron frame work fabricated out of M.S. angle iron.. and M.S. flat ... with bolts, washers etc.,and painted with 2 coats of red oxide and then two coats of approved paint.40x40x6mm	Mtrs	14.00	267.75	3748.50			14.00	267.75	3748.5	14.00	3748.50
31	Fabricating supplying and mounting MS box made out SWG suitable for floor / wall mounting, fully weather proof with provision for better heat dissipation, provided with hinged front cover, equipped with tamper proof locking arrangements, with suitable size clamps with necessary cable entry pipe with gland and box should be finished with 7tanks treatment with powder coated paint and finally finished with approved colour etc., complete16SWG	Sqmm	328000.00	0.37	121360.00			328000.00	0.37	121360	328000.00	121360.00

Sl No	Description of Work	Unit	As per Shedule -B			Previous Measurement		Present Measurement			Up to date	
32	Supplying and fixing Moulded Case Circuit Breaker (MCCB)over the existing wood/panel board using necessary screws,bolts, nuts, necessary phase separators, handle and wiring complete. Protection of Overload and Short circuit with thermal Magnetic/Micro processor release and Earth Fault as per IS-13947. (Icu = Ics)100Amps 25kA.	Nos	10.00	6720.00	67200.00			10.00	6720.00	67200	10.00	67200.00
33	Fixing halogen/metal halide / SVL / IL / LED floodlight fitting over existing pole / wall ceiling including clamps, bolts, nuts and wiring using suitable capacity wires.	Nos	420.00	183.75	77175.00			420.00	183.75	77175	420.00	77175.00
34	Supplying and running of GI/Copper strips for grounding connections, using necessary fixing materials as required.25x3mm Copper strip	Mtrs	250.00	530.25	132562.50			250.00	530.25	132562.5	250.00	13256250
35	Supplying & fixing of retrofit type - LED bulb.....W with OPAL acrylic diffuser comprising of LED source with CCT 6500 degree K, CRI> 70%. efficacy >80 lumen per watt,life> 25000 burning hours and Compliance to IS 10322/IEC 60598, LM 79 & LM 80. The LED are driven by HF electronic driver integrated in the system, with PF > 0.95, power loss should < 5% of lamp wattage., short circuit & open circuit protection to be integrated in the circuit, THD less than 20%,Life as per LM 79. The operating input voltage should be between 130 to 275 volts. BIS Approved and Tested by ABL/CPRI accredited laboratory with 2 years Warranty against any manufacturing defect working under standard electrical condition 18W, 6500K	Nos	60.00	267.75	16065.00			60.00	267.75	16065	60.00	16065.00
36	Supplying & fixing of Porcelain fuse channel with cut out on existing wooden/panel using necessary nuts, bolts and washers.63Amps	Nos	30.00	238.35	7150.50			30.00	238.35	7150.5	30.00	7150.50

Sl No	Description of Work	Unit	As per Shedule -B			Previous Measurement		Present Measurement			Up to date	
37	Remotely control and and monitorable smart street light system by using web or mobile application .smart control system has hardware ruggedness over field issues like line cross, line short, lighting and any other irregularities in voltage. It has some features like 1.Remote lighting management.2.Precise lighting turnoff.3.Load ballancing.4.Load power regulation.5.Status tracking. It works on the basis of some of these features 1) Main Control Unit (Mother board) : Handles controlling , data handling and other communication process. 2) Communication unit: GSM/GPRS quad bandwith RS232 interface wireless communication unit 3) Gate Driver Unit: Firing angle controllable board for driving the thyristor 4) Switching Thyristor: SCR 110 AMPS dual thyristor modules for switching 5) Embedded Firmware: Firmware to control , handle , process the data and communicate it wirelessly.6) Metal Enclosure : IP66 weather prof metal enclosure.7) Transformers: Customized step down transformers for various purposes.8) Wiring and other device assembly components.	Nos	10.00	54075.00	540750.00			10.00	54075.00	540750	10.00	54075000
38	Laying of UG Cables by trenchless technology by adopting horizontal boring & Drawing of cable including preparation at site With HDPE Pipe i) Normal soil 5/6" bore size	Mtrs	200.00	890.40	178080.00			200.00	890.40	178080	200.00	17808000
39	Supplying of 1.1 KV LT UG cable XLPE or Heat resistant PVC insulated, PVC extruded Inner sheath armoured UG LT cable as per IS-1554 (Part-1) or IS-7098 Part-1, Armouring strip thickness in average +5% and resistivity 14 Ohms/Kms (Max) as per IS-3975 4 core 16 sqmm	Mtrs	6500.00	157.00	1020500.00			6500.00	157.00	1020500	6500.00	102050000

Sl No	Description of Work	Unit	As per Shedule -B			Previous Measurement		Present Measurement			Up to date	
40	Labour charges for laying of 1.1 KV class UG cable in existing trench GI pipe / stoneware pipe / on wall / on pole as required.6 sqmm to 16 sqmm In existing trench/duct.6 sqmm to 16 sqmm	Mtr	6500.00	12.47	81055.00			6500.00	12.47	81055	6500.00	81055.00
41	Supplying, fixing, wiring, earth electrode for grounding conduits, I.C. cutouts and other equipment's on the meter board using 40mm dia 2.90mm thick GI pipe 2.5 mtr long buried in a pit ... The pit should be filled with equal proportion of salt and charcoal 150mm all-round the pipe to complete depth. The connection from the pipe to the conduit etc., is to be established through GI wire of size as per ISI specification 7.3.3. of IS 732 using 12mm dia bolts, nuts, washers and check nuts etc., the pipe shall have 16 through holes of 12 mm dia	No	6.00	3149.69	18898.14			6.00	3149.69	18898.14	6.00	18898.14
42	Supplying and running of GI/Copper strips for grounding connections, using necessary fixing materials as required.25x3mm GI strip	Mtrs	40.00	78.75	3150.00			40.00	78.75	3150	40.00	3150.00

Sl No	Description of Work	Unit	As per Shedule -B			Previous Measurement		Present Measurement			Up to date	
43	Providing Rcc Pole pedstal of Size 0.5x0.5x1.6 Mtrs Including digging of pit, tor steel, anchoring bolts nuts ,templates ,Centring,1;4;8base concrete,1;2;4pedestal concrete and etc coplete as per the data sheet enclosed	Nos	41.00	5618.00	230338.00			41.00	5618.00	230338	41.00	23033800
44	Providing Rcc Pole pedstal of Size 0.35x0.35x1.3 Mtrs Including digging of pit, tor steel, anchoring bolts nuts ,templates ,Centring,1;4;8 base concrete,1;2;4pedestal concrete and etc coplete as per the data sheet enclosed	Nos	230.00	2898.00	666540.00			230.00	2898.00	666540	230.00	66654000
45	Supply, installation, testing and commissioning of out door garden speaker fitted with wide response and water resistant polypropylene speaker components and strong aluminium alloy housing permits various outdoor application omni directional speakers IP 55 norms 40W/100 volt with taping of 40/20/10/5watts 88 db 160 Hz-16KHz Dimensions DIA 185mm x H765 mmfrequency response Preferable. Make : Ahuja/Eq	Nos.	181.00	18522.00	3352482.00			181.00	18522.00	3352482	181.00	335248200
46	Supply, installation, testing and commissioning of 480 to 600 watt amplifier with large air cooled/forced air cooled heat sink with 3 x line level inputs and 1 x 100 volt input to loop another amp output line ground lift switch to reduce the ground loop hum with 100v/70 volt/ impedence out put Frequency resposne of 50 htz to 15 khtz SN ratio 60 db Power consumption 1200VA AC. Make : Audiotrak/Ahuja	Nos.	9.00	76734.00	690606.00			9.00	76734.00	690606	9.00	69060600
47	Supply, installation, testing and commissioning of FM radio with Frequency range of 70 Mhz to 108 Mhz PLL based auto tuning sysetm with aux out with out door antenna consumption preferable. Make : Custom	Nos.	9.00	2268.00	20412.00			9.00	2268.00	20412	9.00	20412.00

Sl No	Description of Work	Unit	As per Shedule -B			Previous Measurement		Present Measurement			Up to date	
48	Supply, installation, testing and commissioning of water proof audio rack made of Powder coated MS lockable with bottem ventilated with removable mesh type cover with power strip and for out door use preferable. Make : Custom	Nos.	9.00	67473.00	607257.00			9.00	67473.00	607257	9.00	60725700
49	Supply, installation, testing and commissioning of Timer module with 8+8 programmable timer with realtime clock to fix the switching on and off time of BGM/PA system Make : Custom	Nos.	9.00	8694.00	78246.00			9.00	8694.00	78246	9.00	78246.00
50	Supply, installation, testing and commissioning of hand held wired mic with wind shield with single channel mic preamp Frequency response of 55 htz to 16000 htz with 2,5 mvolt out put. Make : Ahuja/Eq	Nos.	4.00	8883.00	35532.00			4.00	8883.00	35532	4.00	35532.00
51	Supply, installation, testing and commissioning of Speaker mounting hardware with mounting templets to be grouted in to the concrete with welded bolts as required to fix the garden speaker	Nos.	181.00	2362.00	427522.00			181.00	2362.00	427522	181.00	42752200
52	Supply, installation, testing and commissioning of 4 core 2.5 sq mm armoured cable preferable. Make : Custom	mtr	11140.00	311.85	3474009.00			11140.00	311.85	3474009	11140.00	347400900
	Total				**26906112.87**					**26906112.87**		**2690611287**
	GST 12% (For item no. 1 to 7, 9 to 36 & 38 to 44)				**1422215.62**					**1422215.62**		**142221562**
	Grand Total				**28328328.49**					**28328328.49**		**2832832849**

CERTIFICATE

1 Certified that the work done is satisfactorily.

2 There is no departmental issues by BBMP

[redacted]

NEWZEN CONSULTANT ★★ Bangalore ★★

Consultant

Asst. Engineer

Assistant Executive Engineer (Ele)
BBMP, Bangalore

Asst. Executive Engineer,